

Recovery Plan Action Status

Plan Name: Humpback Chub - 1990 2nd Revised Final Plan

Plan Status: Final Revision 2

Plan Date: 19-Sep-90

Lead Agency: USFWS

Lead Office: Upper Colorado River Endangered Fish Recovery Program

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969-7322)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Humpback chub (Gila cypha)	1	1	Resolve taxonomic problems in Colorado River basin Gila	Ongoing Current	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Genetics	Contract, Internal Field Assistance, Internal Technical Assistance	Done in conjunction with bonytail chub recovery plan; Gila genetics better understood than in 1980; ongoing research and completion of genetics management plan will help refine.
Humpback chub (Gila cypha)	2	2	Identify and define humpback chub populations.	Complete	Prior to FY 1995	FY 1995 - FY 1999	State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Population Surveys	Contract, Internal Field Assistance, Internal Technical Assistance	Will begin upon successful completion of Task 1; humpback chub populations largely determined
Humpback chub (Gila cypha)	2	3.1	Determine genetic and morphologic composition of humpback chub populations.	Complete	Prior to FY 1995	FY 2008	State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Genetics	Contract, Internal Field Assistance, Internal Technical Assistance	Costs are included in Task 1; Gila genetics better understood than in 1980; ongoing research will help refine.

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Humpback chub (Gila cypha)	2	3.2	Monitor relative abundance of juveniles and adults.	Ongoing Current	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Demographic Studies	Contract, Internal Field Assistance	Costs are included in Task 1; Upper Basin populations are monitored by various agencies; Lower Basin Grand Canyon population is monitored by USGS Grand Canyon Monitoring and Research Center
Humpback chub (Gila cypha)	2	3.3	Monitor relative abundance of young-of-year.	Ongoing Current	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Demographic Studies	Contract, Internal Field Assistance	Costs are included in Task 1
Humpback chub (Gila cypha)	3	4.1.1	Describe reproductive biology.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research	Contract, Internal Field Assistance	Reproductive biology is fairly understood, but additional research is needed.
Humpback chub (Gila cypha)	3	4.1.2	Describe age-and-growth characters and food requirements and feeding habits for all life stages.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: General	Contract, Internal Field Assistance	Food habits have been studied; food base and trophic ecology is poorly understood, studies are ongoing.

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Humpback chub (Gila cypha)	3	4.1.3	Determine movements between and within populations.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Migration	Contract, Internal Field Assistance	Several studies completed; additional research planned.
Humpback chub (Gila cypha)	3	4.1.4	Determine population dynamics.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Demographic Studies	Contract, Internal Field Assistance	
Humpback chub (Gila cypha)	3	4.1.5	Determine factors that affect survival with emphasis on recruitment.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver, Navajo Tribe	Research: Demographic Studies	Contract, Internal Field Assistance	

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Humpback chub (Gila cypha)	2	4.2.1	Determine the biological, chemical, and physical requirements of all life stages.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Habitat Requirements	Contract, Internal Field Assistance	
Humpback chub (Gila cypha)	2	4.2.2	Determine criteria for identifying suitable and optimal humpback chub habitat.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Habitat Requirements	Contract, Internal Field Assistance	
Humpback chub (Gila cypha)	3	5.1	Establish and maintain refuge.	Partially Complete	FY 1995 - FY 1999		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	Coordinated with refugium for other Colorado River Fishes; 85 fish at Willow Beach National Fish Hatchery (NFH); efforts to establish additional refuge/captive broodstock/producti on techniques are ongoing.
Humpback chub (Gila cypha)	2	5.2.1	Assess impacts of development projects on biological, chemical, and physical requirements.	Partially Complete	Prior to FY 1995		Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management	Contract, Internal Field Assistance	In-house

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Humpback chub (Gila cypha)	2	5.2.2	Determine if hybridization occurs with other Gila species and assess its significance.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Genetics	Contract, Internal Field Assistance	Issue will also be addressed under Task 1; Hybridization thought to be manageable with flow/habitat manipulation.
Humpback chub (Gila cypha)	3	5.2.3	Determine nature and extent of parasitism and its impact on species survival.	Partially Complete	FY 1995 - FY 1999		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Research: Disease	Contract, Internal Field Assistance	Several studies completed; additional research planned/ongoing
Humpback chub (Gila cypha)	2	5.2.4	Develop and implement plan to avoid or deal with catastrophic and chronic contaminants.	Not Started			State of Utah, State of Arizona, State of Colorado, New Mexico Department of Game and Fish, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: General	Contract, Internal Field Assistance	Primary emphasis on the Little Colorado River; Identified need; funding not available
Humpback chub (Gila cypha)	2	5.2.5	Eliminate or minimize impacts from nonnative fishes.	Partially Complete	FY 2000 - FY 2004		State of California, Nevada Department of Wildlife, State of Utah, State of Arizona, State of Colorado, National Park Service, New Mexico Department of Game and Fish, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Predator and Competitor Control	Contract, Internal Field Assistance	

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Humpback chub (Gila cypha)	2	5.3.1	Inform appropriate agencies of their management and enforcement obligations.	Partially Complete	Prior to FY 1995		State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Internal Administrative	
Humpback chub (Gila cypha)	2	5.3.2	Ensure compliance with Section 7 of the Endangered Species Act by all Federal agencies.	Partially Complete	Prior to FY 1995		State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Internal Administrative	Primarily represents costs associated with Section 7 consultation
Humpback chub (Gila cypha)	3	5.4	Acquire, appropriate, or otherwise preserve water rights to protect adequate humpback chub populations and their habitats to ensure the survival of the species.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Acquisition: Management Agreement, Management: Planning	Internal Administrative	Water rights will begin after the third FY and will be accomplished through the cooperative recovery programs. Costs are likely to exceed \$10 million in the upper basin
Humpback chub (Gila cypha)	2	5.5	Develop and implement cooperative interagency programs to protect and recover the humpback chub.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Other: Administration	Internal Administrative	Covers costs associated with administrative and agency coordination

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Humpback chub (Gila cypha)	3	6.1.1	Provide and support appropriate production facilities.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; we have funded the development of the Hualapai tribal facility; more facilities may be necessary
Humpback chub (Gila cypha)	3	6.1.2	Identify and secure adequate numbers of the proper broodstocks.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; We have 85 humpback chub on station at Willow Beach NFH; need to create an additional refuge/broodstock
Humpback chub (Gila cypha)	3	6.1.3	Maintain genetic variability and integrity in broodstocks.	Not Started			State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; A genetics management plan is currently in development by staff at Dexter NFH thta will guide this activity.
Humpback chub (Gila cypha)	3	6.1.4	Develop/refine rearing and handling techniques.	Not Started			State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; A genetics management plan is currently in development by staff at Dexter NFH thta will guide this activity.

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Humpback chub (Gila cypha)	3	6.1.5	Establish production goals in terms of numbers and sizes that are needed for reintroduction or augmentation.	Not Started			State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; Stocking of captive reared fish is not currently necessary. A genetics management plan is currently in development by staff at Dexter NFH thta will guide this activity.
Humpback chub (Gila cypha)	3	6.2.1	Identify areas for reintroduction.	Partially Complete	FY 1995 - FY 1999		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; Several sites have been identified in Grand Canyon; humpback chub were translocated above Chute Falls in 2003-2005 successfully.
Humpback chub (Gila cypha)	3	6.2.2	Restore and prepare stocking sites as needed for reintroduction or augmentation.	Partially Complete	FY 2000 - FY 2004		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Habitat Maintenance and Manipulation	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; National Park Service has begun renovation of nonnative species from tributaries in Grand Canyon that could be used for translocation of humpback chub

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Humpback chub (Gila cypha)	3	6.2.3.1	Determine optimum size and time for stocking.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Reintroduction, Research: Reintroduction	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; Stocking is not yet considered necessary although translocation is; this action will be accomplished as part of this project.
Humpback chub (Gila cypha)	3	6.2.3.2	Determine stocking rates and schedules required to reestablish humpback chub populations.	Not Started			State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Reintroduction, Research: Reintroduction	Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; Stocking is not yet considered necessary, this item will be completed when necessary.
Humpback chub (Gila cypha)	3	6.2.3.3	Establish a monitoring program to evaluate the success of reintroductions, or augmentations.	Partially Complete	Prior to FY 1995		State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Reintroduction	Contract, Internal Field Assistance	To be done upon completion of Tasks 1 & 2. Cost unknown until production requirements are determined; Humpback chub were translocated above Chute Falls in 2003-2005 successfully and are monitored annually; any fish translocated or stocked in the future will be monitored.

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Humpback chub (Gila cypha)	3	7.1	Develop an information and education program to inform the public of the humpback chub's status and uniqueness.	Partially Complete	Prior to FY 1995		State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Bureau Land Management , Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Other: Information and Education	Contract, Internal Field Assistance	Include as part of an I&E program for all the Colorado River Fishes
Humpback chub (Gila cypha)	3	7.2	Encourage and support publication of research and other recovery results in the technical literature.	Partially Complete	Prior to FY 1995		State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Bureau Land Management , Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Other: Information and Education, Research: Other Information	Contract, Internal Administrative, Internal Technical Assistance	Done by respective agencies and contractors; Numerous journal articles have been published
Humpback chub (Gila cypha)	3	7.3	Develop and conduct workshops to coordinate recovery efforts.	Partially Complete	Prior to FY 1995		State of California, State of Utah, State of Arizona, State of Colorado, National Park Service, Bureau Land Management , Fisheries Resources , Bureau of Reclamation , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Administrative, Internal Field Assistance	Done through existing meetings, workshops, and committees; Numerous workshops have been held, more are planned.

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Humpback chub (Gila cypha)	3	8	Determine biological criteria/objectives for downlisting/delisting the humpback chub	Partially Complete	FY 2000 - FY 2004		State of California, State of Utah, State of Arizona, State of Colorado, Fisheries Resources , Fish and Wildlife Enhancement, USFWS Regional Office 2 - Albuquerque, USFWS Regional Office 6 - Denver	Management: Planning	Contract, Internal Administrative, Internal Field Assistance, Species Expert	Done in coordination with other Colorado endangered fish